

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014786**Date Inspected:** 14-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	William Sherwood and Bernie Do			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Orthotropic Box Girder		

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG L4E/L5E edge plate 'F' outside, QA randomly observed welder Xiao Jian Wan welding fill to cover pass on the splice butt joint. The welder was observed perform semi-automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040B-3. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degree Fahrenheit using propane gas torch prior welding. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QA also performed verification on the parameter and noted readings of 225 Amperes, 21.4 voltages and 180mm per minute travel speed which appear acceptable to contract requirements. At the end of the shift, the welder has completed welding the whole length of the splice joint and intends to flush grind the cover reinforcement tomorrow.

At OBG L4W/L5W bottom plate 'D' inside, QA randomly observed welder ABF welder Mike Maday welding fill pass on the splice butt joint. The welder was noted using Submerged Arc Welding (SAW) welding the groove splice butt joint in flat (1G) position. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. The plates being welded have a backing bar attached to the other side and preheated and maintained to greater than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System

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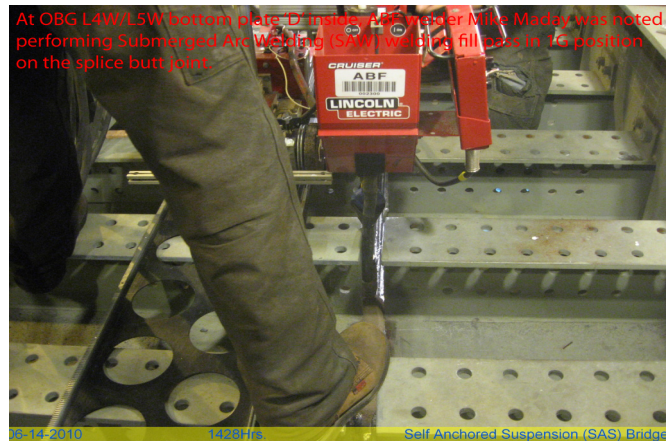
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located on the opposite side of the plate prior welding. The welding parameters were monitored by ABF QC Bernie Docena. QA performed parameter check at the time of welding and noted readings of 550 amperes, 32.3 voltages and a travel speed of 380mm per minute. The welding parameters appear in conformance to the contract requirements. SAW welding was not completed during the shift and should continue tomorrow.

At OBG L2W/L3W side plate 'E' outside, ABF QC Jim Cunningham and Bonifacio Daquinag were observed performing Magnetic Particle Testing (MT) on the flush ground cover reinforcement of the splice butt joint and the ground temporary attachments removal. The ABF QCs were working together using one electromagnetic yoke. Due to the position (overhead) of the work, one was holding/energizing the yoke while the other was puffing the red powder and blowing on excess powder. The two QCs have completed MT the cover reinforcement and ground temporary attachments. QA noted that the ground removal of the temporary attachments were rough that it need to be fixed. QA informed QC Bonifacio Daquinag about the situation who also informed his lead QC Jesse Cayabyab. They both agreed that the ground surface of the temporary attachments were rough and that they will ask ABF to make them smoother.

At OBG L3E/L4E bottom plate 'D' outside, ABF welders Mitch Sittinger and Fred Kaddu continued and completed grinding the gouged groove on the backing bar removal. After completing the grinding, the welders called QC to visually check and perform Magnetic Particle Test (MT) on the ground backing bar removal. ABF QC Jim Cunningham arrived at the place and performed visual and MT which the QC has both accepted.



### Summary of Conversations:

As stated above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:**      Levell,Bill

QA Reviewer